# EPC course Outline

**All class notes will be uploaded to GitHub.**

https://tinyurl.com/epcCourse

1. Class 1: Introduction to C.
    - Syntax
    - Variable declaration

      (`int`, `long long int`, `__int128`, `float`, `double`, `long double`, `char`)
    - Variable initialization
    - Value assignment
    - Showing output
    - Basic Operations (`+`, `-`, `*`, `/`, `%`)
    - pre-increment, post-increment (`++x`, `x++`)
    - Taking input
    - Data Type Conversion
    - Set precision
    - Spacing / Indentation
    - Commenting
2. Class 2: Conditions, Operators, In-built Math Functions
    - If-else
    - Nested If-else
    - Logical operators (`&&`, `||`, `!`)
    - Relational Operators (`==`, `!=`, `>`, `<`, `>=`, `<=`)
    - some in-built math functions `sqrt()`, `pow()`, `log()`, `floor()`, `ceil()`

3. Class 3: Loop, Time Complexity
    - while loop
    - do-while loop
    - for loop
    - nested loop
    - time complexity
4. Class 4: Introduction to `C++`
    - why finally `C++` not `C`
    - key differences between `C++` and `C`
5. Class 5: Array, String, Space Complexity
    - array
    - 2D array (`matrix`)
    - string
    - memory taken by different typo variables

      (`int`, `long long int`, `__int128`, `float`, `double`, `long double`, `char`)
    - space complexity
6. Class 6: Function
    - void Function
    - return type Function
    - pass by value
    - pass by reference
7. Class 7: Recursion
    - Stack overflow
    - Factorial
    - Fibonacci
8. Class 8: Structure

9. Class 9: Introduction to Problem Solving
    - Problem Solving
    - Contest (`Online`, `Onsite`)
    - Competitive Programming
    - Online Judges (`Codeforces`, `Atcoder`, `Codechef`, `Vjudge` and others . . . )
    - Test Case
    - EOF

**Note: Total Course will be run in Dynamic way considering the progress of Level Zero.**